

FACT SHEET

as required by LAC 33:IX.3109 for major LPDES facilities, for draft Louisiana Pollutant Discharge Elimination System Permit No. LA0041394; AI 8848; PER20080001 to discharge to waters of the State of Louisiana as per LAC 33:IX.2311.

The permitting authority for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

- I. **THE APPLICANT IS:** City of Shreveport
Lucas Wastewater Treatment Plant
11301 East Kings Highway
Shreveport, LA 71115
- II. **PREPARED BY:** Eura DeHart
- DATE PREPARED:** October 30, 2008
- III. **PERMIT ACTION:** reissue LPDES permit LA0041394, AI 8848; PER20080001
- LPDES application received: June 27, 2008
- EPA has retained enforcement authority.
- LPDES permit issued: December 5, 2003
LPDES permit expires: December 31, 2008

IV. FACILITY INFORMATION:

- A. The application is for the discharge of treated sanitary wastewater from a publicly owned treatment works serving the City of Shreveport.
- B. The permit application does indicate the receipt of industrial wastewater. The industrial dischargers include:

<u>Name of Discharger</u>	<u>Flow</u>
Alloy Piping Products	20,000 GPD
Arkla Disposal Services	400,000 GPD
Dr. Reddy's Laboratories(formerly BASF)	43,000 GPD
Frymaster	20,000 GPD
General Electric	27,000 GPD
General Motors	390,000 GPD
Red River Pharma	913 GPD
Sage Pharmaceuticals	900 GPD
Ternium (formerly Steelscape)	12,000 GPD
ALSCO	79,000 GPD
American Dust	29,000 GPD
Avaya	n/a
Beaird Industries	56,000 GPD
Calumet Lubricants	5,400 GPD
Certainfeed	7,110 GPD
Foremost Dairy	81,400 GPD
International Paper	2,000 GPD
KCS Railway	145,000 GPD

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 2

Libbey Glass	203,000 GPD
Liquid Environmental	11,260 GPD
Woolworth Road Landfill	20,000 GPD
Allied Waste Services	700 GPD
Altec Phillips	800 GPD
Atlantic Industrial Services	1,848 GPD
Commodore Medical	1,600 GPD
Frost Industries	6,700 GPD
Harcros Chemical	3,000 GPD
Integrated Power Services	4,500 GPD
Omni Specialty Plastics	230 GPD
Penske Truck Leasing	3,700 GPD
Printpack	2,700 GPD
Purina Mills	3,000 GPD
Reigel By-Products	7,000 GPD
Ryder Truck	2,860 GPD
Shreveport Macaroni	2,500 GPD
Twin States Trucking	800 GPD
United Engines	<100 GPD
U.S. Postal Service	100 GPD
Christus Schumpert Medical Center	150,000 GPD
Christus Schumpert Highland	100,000 GPD
Doctor's Hospital	11,226 GPD
HCS/Port-a-Jon	1,500 GPD

- C. The facility is located at 11301 East Kings Highway in Shreveport, Caddo Parish.
- D. The treatment facility consists of a mechanical bar screen, grit removal, anoxic bioselector with mixing, flow splitter, aeration basins, and final clarifiers. Disinfection is by ultraviolet light.

During wet weather flow, after the grit removal, the influent passes through a junction box to a high rate clarifier (Ballasted Flocculation). Disinfection is by ultraviolet light.

E. External Outfall 001

Discharge Location: Latitude 32° 23' 51" North
Longitude 92° 41' 17" West

Description: treated sanitary wastewater

Design Capacity: 30 MGD

Type of Flow Measurement which the facility is currently using:
Continuous Recorder

Internal Outfall 101

Discharge Location: just prior to the UV disinfection unit

Description: wet weather treatment unit

Design Capacity: 40 MGD

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 3

Treatment Type:

During peak influent events*, the influent will be diverted to a high rate clarifier (HRC), which consists of a flash mixing tank where polymer and micro-sand are added. The water will then enter a maturation zone where it receives further mixing and detention. Finally, the decant continues onto the UV disinfection system.

* A peak influent event will be defined as an influent flow greater than 30 MGD.

Type of Flow Measurement which the facility is currently using:

Influent: Mag-meter

Effluent: Ultrasonic flow measurement over weir

V. RECEIVING WATERS:

The discharge is into the Red River in segment 100101 of the Red River Basin. This segment is listed on the 303(d) list of impaired waterbodies.

The **critical low flow** (7Q10) of the Red River is 1275 cfs.

The **hardness value** is 189 mg/l and the **fifteenth percentile value for TSS** is 24 mg/l.

The designated uses and degree of support for Segment 100101 of the Red River Basin are as indicated in the table below^{1/}:

Overall Degree of Support for Segment 100101	Degree of Support of Each Use						
	Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Shell fish Propagation	Agriculture
Partial	Full	Full	Not Supported	N/A	Not Supported	N/A	Full

^{1/}The designated uses and degree of support for Segment 100101 of the Red River Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2006 Water Quality Management Plan, Water Quality Inventory Integrated Report, Appendix A, respectively.

VI. ENDANGERED SPECIES:

The receiving waterbody, Subsegment 100101 of the Red River Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U. S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 4

VII. HISTORIC SITES:

The discharge is from an existing facility location, which does not include an expansion beyond the existing perimeter. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the 'Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits' no consultation with the Louisiana State Historic Preservation Officer is required.

VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Mr. Eura DeHart
Water Permits Division
Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:

Subsegment 100101, Red River – Arkansas State Line to Alexandria (Hwy. 165), is listed on LDEQ's Final 2006 303(d) List as impaired for sulfates and color. To date no TMDLs have been completed for this waterbody. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by a TMDL. Until completion of TMDLs for the Red River Basin, those suspected causes for impairment which are not directly attributed to the sanitary wastewater point source category have been eliminated in the formulation of effluent limitations and other requirements of this permit. Additionally, suspected causes of impairment which could be attributed to pollutants which were not determined to be discharged at a level which would cause, have the reasonable potential to cause or contribute to an excursion above any present state water quality standard were also eliminated.

Sulfates

The suspected cause of impairment is from sources outside of state jurisdiction or borders and from natural sources. Based on the size and nature of the facility and the flow of the Red River, the Department believes there is little potential for the discharge to cause or contribute to the sulfates impairment of this subsegment.

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 5

Color

The suspected cause of impairment is from upstream sources. Based on the size and nature of the facility and the flow of the Red River, the Department believes there is little potential for the discharge to cause or contribute to the color impairment of this subsegment.

Final Effluent Limits:

The previous LPDES permit required water quality based effluent limitations of 0.054 lbs/day monthly average and 0.124 lbs/day daily average sampled at 1/month for mercury. DMR data from August 2006 to July 2008 and the effluent analysis submitted with the application were reviewed. There were no exceedences of the mercury limitation during this time period. The water quality screen did not indicate the need for a water quality based mercury effluent limitation. Therefore, no limitation for mercury has been established in this permit.

EXTERNAL OUTFALL 001 (Treated Sanitary Wastewater)

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg (lbs/day)	Monthly Avg (mg/l)	Weekly Avg (mg/l)	Basis
BOD ₅	7506	30 mg/l	45 mg/l	Limits are set in accordance with the Statewide Sanitary Effluent Limitations Policy (SSELP) for facilities of this treatment type and size discharging into the Red River.
TSS	7506	30 mg/l	45 mg/l	Since there is no numeric water quality criterion for TSS, and in accordance with the current Water Quality Management Plan, the TSS effluent limitations shall be based on a case-by-case evaluation of the treatment technology being utilized at a facility. Therefore, a Technology Based Limit has been established through Best Professional Judgement for the type of treatment technology utilized at this facility.

*Concentration limits are used in accordance with LAC 33:IX.2709.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement. LAC 33:IX.709.B references LAC 33:IX.711 which express BOD₅ and TSS in terms of concentration.

Other Effluent Limitations:**1) Fecal Coliform**

The discharge from this facility is into a water body which has a designated use of Primary

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 6

Contact Recreation. According to LAC 33:IX.1113.C.5., the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgement in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

2) pH

According to LAC 33:IX.3705.A.1., POTW's must treat to at least secondary levels. Therefore, in accordance with LAC 33:IX.5905.C., the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time.

3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

4) Toxicity Characteristics

In accordance with EPA's Region 6 Post-Third Round Toxics Strategy, permits issued to treatment works treating domestic wastewater with a flow (design or expected) greater than or equal to 1 MGD shall require biomonitoring at some frequency for the life of the permit or where available data show reasonable potential to cause lethality, the permit shall require a whole effluent toxicity (WET) limit (*Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards*, April 16, 2008, Version 6).

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates the effects of synergism of the effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. LAC 33:IX.1121.B.3. provides for the use of biomonitoring to monitor the effluent for protection of State waters. The biomonitoring procedures stipulated as a condition of this permit are as follows:

The permittee shall submit the results of any biomonitoring testings performed in accordance with the LPDES Permit No. LA0041394, **Biomonitoring Section** for the organisms indicated below.

TOXICITY TESTSFREQUENCY

Chronic static renewal 7-day definitive test
using Ceriodaphnia dubia

1/quarter

Chronic static renewal 7-day definitive test
using Pimephales promelas

1/quarter

Dilution Series - The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional concentrations shall be 4%, 6%, 7%, 10%, and 13%. The critical biomonitoring dilution is defined as 10% effluent. The critical dilution is calculated in Appendix B-1 of this fact sheet. Results of all dilutions shall be documented in a full report according to the test method publication mentioned in the **Biomonitoring Section** under Whole Effluent Toxicity. This full report shall be submitted to the Office of Environmental Compliance as contained in the Reporting Paragraph located in the **Biomonitoring Section** of the permit.

The permit may be reopened to require effluent limits, additional testing, and/or other

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 7

appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.2383. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

INTERNAL OUTFALL 101 (Peak flow wet weather treatment system)

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Weekly Average		Basis
BOD ₅	65% Removal	45 mg/l	US EPA Region 6 <i>Strategy for Permitting Discharges of Wet Weather-Related Peak Flows</i> , December 1998.
TSS	65% Removal	45 mg/l	US EPA Region 6 <i>Strategy for Permitting Discharges of Wet Weather-Related Peak Flows</i> , December 1998.

*Concentration limits are used in accordance with LAC 33:IX.2709.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement. LAC 33:IX.709.B references LAC 33:IX.711 which express BOD₅ and TSS in terms of concentration.

Other Internal Outfall Limitations:

- 1) The peak flow treatment system can only be used during wet weather conditions.
- 2) Effluent from peak flow treatment system must meet weekly average effluent limitations for secondary treatment (i.e. 45 mg/l BOD₅, 45 mg/l TSS).
- 3) Discharge Monitoring Reports (DMRs) must contain total daily flow and percentage of flow directed to the peak flow wet weather treatment system, year-to-date count of the number of times and length of times the system has been used, amount of rainfall on the day of use, and a statement indicating if all treatment units were in use and fully functional during the time of use of the peak flow wet weather system. This report is to be included in the comment section of the DMR's submitted for Internal Outfall 101.

Discharge Monitoring Reports (DMRs) must contain total daily flow and percentage of flow directed to the peak flow wet weather treatment system, year-to-date count of the number of times and length of times the system has been used, amount of rainfall on the day of use, and a statement indicating if all treatment units were in use and fully functional during the time of use of the peak flow wet weather system. This report is to be included in the comment section of the DMRs submitted for Internal Outfall 101.

Fact Sheet
 LA0041394; AI 8848; PER20080001
 Page 8

X. PREVIOUS PERMIT:

LPDES Permit No. LA0041394: Issued: December 5, 2003
 Expires: December 31, 2008

External Outfall 001(Treated Sanitary Wastewater)

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	Continuous	Recorder
BOD ₅	30 mg/l	45 mg/l	1/day	12-Hr Composite
TSS	30 mg/l	45 mg/l	1/day	12-Hr Composite
Fecal Coliform Colonies	200	400	1/day	Grab
Mercury	0.054 lbs/day	0.124 lbs/day	1/day	24-Hr Composite

Internal Outfall 001(Peak flow wet weather treatment system)

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>		
	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>	<u>Weekly Avg. % Removal</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	N/A	Continuous	Recorder
BOD ₅	---	45 mg/l	65% (min)	1/day	12-Hr Composite
TSS	---	45 mg/l	65% (min)	1/day	12-Hr Composite

<u>Influent Characteristic</u>	<u>Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	---	Report	Continuous	Recorder
BOD ₅	Report	Report	1/day	12-Hr Composite
TSS	Report	Report	1/day	12-Hr Composite

The permit contains biomonitoring.
 The permit contains pollution prevention language.
 The permit contains a fully approved pretreatment program.

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:

A) Inspections

A review of the files indicates the most recent inspection for this facility was performed on June 25, 2008. The following was noted during the inspection:

- The facility is an activated sludge plant with a design capacity of 26 MGD.
- One of the two bio-selector chambers was down for repairs. All other treatment units were operational.
- A review of the facility's DMRs revealed satisfactory effluent results.
- Laboratory QA/QC procedures were satisfactory.
- Waste sludge is disposed at their sludge farm.
- The facility has the capacity to divert influent wastewater to their equalization basins during heavy storm water events. The facility also has a high rate clarifier which can be used if influent flow reaches 60 MGD.
- Bob Campbell and Craig Fletcher were present during the inspection and exit interview.

B) Compliance and/or Administrative Orders

A review of the files indicates there are no recent enforcement actions administered against this facility.

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 9

C) DMR Review

A review of the discharge monitoring reports for the period beginning August 2006 through July 2008 has revealed the following violations:

Parameter	Outfall	Period of Excursion	Permit Limit	Reported Quantity
TSS, Monthly Avg.	001	August 2006	30 mg/l	31 mg/l
TSS, Loading	001	November 2006	7506 lbs/day	10367 lbs/day
TSS, Monthly Avg.	001	November 2006	30 mg/l	58 mg/l
TSS, Weekly Avg.	001	November 2006	45 mg/l	69 mg/l
BOD ₅ , Loading	001	December 2006	7506 lbs/day	7606 lbs/day
BOD ₅ , Monthly Avg.	001	December 2006	30 mg/l	38 mg/l
BOD ₅ , Weekly Avg.	001	December 2006	45 mg/l	76 mg/l
TSS, Loading	001	December 2006	7506 lbs/day	11853 lbs/day
TSS, Monthly Avg.	001	December 2006	30 mg/l	61 mg/l
Fecal Coliform, Monthly Avg.	001	December 2006	200	210
TSS, Weekly Avg.	001	April 2007	45 mg/l	76 mg/l
TSS, % removal (min)	101	January 2007	65% (min)	53%

XII. ADDITIONAL INFORMATION:

The nearest drinking water intakes, Bossier City Water System and Shreveport Water System, are both located upstream from the discharge point. There are no drinking water intakes located downstream of this discharge on the Red River. Therefore, monitoring for Toxic Substances will not be a requirement of this permit.

In accordance with LAC 33:IX.2707.C, this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

- Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- Controls any pollutant not limited in the permit; or
- Requires reassessment due to change in 303(d) status of waterbody; or
- Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions as a result of the TMDL. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the design capacity of 30 MGD.

Effluent loadings are calculated using the following example:

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 10

BOD: $8.34 \text{ lb/gal} \times 30 \text{ MGD} \times 30 \text{ mg/l} = 7506 \text{ lb/day}$

At present, for **External Outfall 001**, the **Monitoring Requirements, Sample Types, and Frequency of Sampling** as shown in the permit are standard for facilities of flows greater than 10 MGD.

Effluent CharacteristicsMonitoring Requirements

	<u>Measurement</u>	<u>Sample</u>
	<u>Frequency</u>	<u>Type</u>
Flow	Continuous	Recorder
BOD ₅	1/day	12 Hr. Composite
Total Suspended Solids	1/day	12 Hr. Composite
Fecal Coliform Bacteria	1/day	Grab
pH	1/day	Grab
 Biomonitoring		
<u>Ceriodaphnia dubia</u> (Method 1002.0)	1/quarter	24 Hr. Composite
<u>Pimephales promelas</u> (Method 1000.0)	1/quarter	24 Hr. Composite

At present, for **Internal Outfall 101**, the **Monitoring Requirements, Sample Types, and Frequency of Sampling** as shown in the permit are standard for these types of facilities.

Effluent CharacteristicsMonitoring Requirements

	<u>Measurement</u>	<u>Sample</u>
	<u>Frequency</u>	<u>Type</u>
Flow	Continuous	Recorder
BOD ₅	1/day	24 Hr. Composite
Total Suspended Solids	1/day	24 Hr. Composite

Influent CharacteristicsMonitoring Requirements

	<u>Measurement</u>	<u>Sample</u>
	<u>Frequency</u>	<u>Type</u>
Flow	Continuous	Recorder
BOD ₅	1/day	24 Hr. Composite
Total Suspended Solids	1/day	24 Hr. Composite

Pretreatment Requirements

Based upon consultation with LDEQ pretreatment personnel, it is recommended that LDEQ Option 2A Pretreatment language be included in LPDES Permit LA0041394. This language is established for municipalities with industrial users on their collection system and with an approved pretreatment program in place.

Pollution Prevention Requirements

The permittee shall institute or continue programs directed towards pollution prevention. The permittee shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility. The permittee will complete an annual Environmental Audit Report **each year** for the life of this permit according to the schedule below. The permittee will accomplish this requirement by completing an Environmental Audit Form which has been attached to the permit. All other requirements of the Municipal Wastewater Pollution Prevention Program are contained in Part II of the permit.

Fact Sheet

LA0041394; AI 8848; PER20080001

Page 11

The audit evaluation period is as follows:

Audit Period Begins	Audit Period Ends	Audit Report Completion Date
Effective Date of Permit	12 Months from Audit Period Beginning Date	3 Months from Audit Period Ending Date

XIII. TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Fact Sheet.

XIV. REFERENCES:

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8, "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2005.

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 1998.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2004.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program," Louisiana Department of Environmental Quality, 2004.

Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, City of Shreveport, Lucas Wastewater Treatment Plant, June 27, 2008.